THURSDAY, NOVEMBER 1, 1917.

STONE WORSHIP IN THE NEAR EAST.

The Annual of the British School at Athens. No. xxi. Sessions 1914–15, 1915–16. Pp. viii + 238 + plates xv. (London: Macmillan and Co., Ltd., n.d.) Price 21*s.* net.

THE ranks of scholars and archæologists trained in the British School at Athens have been sadly thinned by the war. It will be difficult to replace G. L. Cheesman, Guy Dickins, R. M. Heath, and W. Loring. To the present volume Mr. Cheesman contributes a translation of a pathetic Greek folk-song, and Mr. Dickins a learned study of Greek art as represented in the so-called "school" of Praxiteles.

The most interesting article is that by Mr. F. W. Hasluck on "Stone Cults and Venerated Stones in the Græco-Turkish Area," which strikes new ground and brings together much useful information for the study of primitive beliefs in the Ægean and its hinterlands. Over the Semitic area stone worship survived later and more generally than among races more prone to anthropomorphism. Here and elsewhere the faiths which succeeded the primitive animism tacitly adopted this form of worship. Islam sanctioned it by allowing the reverence paid by the pagan Arabs to the Black Stone of the Kaaba to be perpetuated on the rather far-fetched hypothesis that the Angel Gabriel had brought it to Mecca. In the same way Christianity has permitted or encouraged it in the case of the Stone of Unction at Jerusalem, and by associating the cult of sacred stones with sacred personages or events. Many stones, again, are valued in a secular way, not necessarily more ancient chronologically, though more openly primitive in spirit, as magic and witchcraft to which this reverence is due are more primitive than religion.

These sacred stones fall into certain well-defined classes.

First we have those selected for their natural qualities, such as the Black Stone of the Kaaba, supposed to be an aerolite. The selection of such stones as objects of veneration often depends upon the unusual material of which they are composed. But in some instances colour is an important factor, as in the case of the Yellow Stones at Constantinople used for the cure of jaundice, or the white stones from Melos or Crete used as milk charms. The principles of sympathetic or homœopathic magic regulate their use.

Next come the pierced stones used in a superstitious way all over the Near East. Mr. Hasluck, with some probability, suggests that their virtue is bound up with the conception of holes as "entrances" or "new starts." All entrances or beginnings mark a new departure, a "change of luck," and the mere act of passage may change the luck of the patient for the better. To this is added the fact that the sanctity attributed to the stone surrounds the sick person with beneficent influences as he makes his passage through it. When the passage itself is too narrow to admit the patient, the difficulty is got over by passing some small object through the orifice. This, by absorbing the virtue of the holy stone, may by juxtaposition transfer it to the sufferer. Thus, at a saints' grave in Monastir, women who desire children pass two eggs through the orifice, and by eating them gain their desire.

Stones with external markings, such as the footprints of a god or of a saint, are naturally revered. Abraham left his footprints at Mecca, the Prophet at Constantinople and Jerusalem. In such cases, also, the dominant faith has taken over the objects venerated by its predecessors. A footprint in Georgia is attributed to a legendary Queen Tamar, to a Christian priest flying from persecution, to a Musalman saint who converted the district to Islam.

Worked stones, again, are often utilised for religious purposes. Islam, of course, has no place for reliefs or statues, and if they are venerated by its adherents it is as the abode of Djinns possessed of power, but this power is evoked by secular magic. The Eastern Church has been to some extent influenced by the Moslem view of graven or molten images, but reliefs of the Thracian horseman are used as eikons of St. George in Thrace. The so-called Demeter statue is worshipped at Eleusis to secure good crops, on the supposition that the headdress of the figure represents ears of corn. "In all probability," says Mr. Hasluck, "the finding of the statue chanced to coincide with an abundant harvest, and the inference was that the talisman was 'white' or favourable." Columns are everywhere objects of veneration, the isolation or conspicuousness of the object, and in some cases phallic associations, contributing to secure its sanctity. Stones with inscriptions in an unknown tongue are believed to possess magical powers.

Stones of many kinds have sometimes been treated as survivals of some ancient cult. But the chance of finding a stone venerated by different faiths from ancient times to our own is so slight as to be negligible. Where the evidence adduced in support of such survivals can be properly tested it usually breaks down. Sir W. M. Ramsay describes the worship paid to a stone or altar dedicated to Hermes, and assumes that the worship paid to it was continuous from the Greek period. But the real fact seems to be that it was removed in comparatively recent times to a Turkish cemetery, and its potency arises from its use as a tombstone, and from the fact that it bears an inscription in a tongue not "understanded of the people"; therefore it was assumed to possess magical qualities. A case even stronger than this is that of the Black Stone which used to be preserved at the tomb of Daniel at Susa. It was found about 120 years ago, and was rolled down the river bank by the Dervish who kept the tomb some sixty years ago; then a Frank is said to have blown it to pieces in

© 1917 Nature Publishing Group

search of treasure. Associations such as these were held sufficient to prove that it possessed magical power, and this belief was reinforced when after its destruction a visitation of plague occurred, the bridge at Shuster collapsed, and the Hawizah dam was breached. This was all obviously the result of the desecration of the talisman, so the fragments were collected and buried in the precincts of the tomb. The story, as a whole, is singularly instructive to those in quest of the origins of popular beliefs.

OCEAN DRIFT FRUITS.

Plants, Seeds, and Currents in the West Indies and Azores. The Results of Investigations carried out in those Regions between 1906 *and* 1914. By H. B. Guppy. Pp. xi+531. (London: Williams and Norgate, 1917.) Price 25*s.* net.

THE author of this important work is a well-known authority on ocean currents and the geographical distribution of plants. His earlier writings on the geology and natural history of the Solomon Islands and the Cocos Keeling Islands, and his more recent work on "Plant Dispersal," contain the results of many years' patient and exhaustive investigations in the Pacific region. In the present volume he deals in an equally thorough and careful manner with the numerous problems connected with plant distribution in the Atlantic region and embodies results of great scientific interest.

The dispersal of plants by ocean currents is by no means a new subject of inquiry. Hemsley ("*Challenger* Report: Botany," vol. i.) gives an interesting summary of the literature to 1885. The present author acknowledges that the reopening of the subject by Hemsley was the means of stimulating the activities of himself and later investigators. Clusius first figured some of the West Indian drift seeds and fruits in 1605, though at the time he was ignorant of their origin. Hans Sloane in 1695–97 gave an account of four drift seeds cast ashore in the Orkney Isles. Three of these he recognised as having been seen by him in Jamaica. After the lapse of two centuries the mystery in regard to the origin of the fourth drift fruit (*Sacoglottis amazonica*) was only cleared up about twenty years ago (see NATURE, November 21, 1895). The numerous writers who have dealt with drift fruits on European shores since Sloane are fully enumerated in the third, possibly the most interesting, chapter in the book. The tracks of drift seeds and fruits and the "fan-shaped" distribution of bottle drift are admirably illustrated by a chart of ocean currents (p. 46). The fact is established that the drift brought by the north and main equatorial currents and mingled in the Caribbean Sea is captured by what ultimately becomes the Gulf Stream and conveyed to the western shores of Europe. Careful observation has shown that at least one-third of the drift seeds and fruits floating in the neighbourhood of the Turks Islands, in the Caribbean Sea, have been found on the coasts of Europe. Incidental mention is made of the transport of logs of mahogany and even of live turtles to European shores.

In the fourth chapter the similarity between the West Indian and West African littoral floras is discussed. This may be accounted for by the fact that of fifty-three plants occurring in both worlds 62 per cent. respond to the current test for transport by the main equatorial current.

A detailed account of the large foreign drift seeds and fruits, first of the Turks Islands and secondly of other portions of the West Indies, occupies several chapters. The distribution of each is given and its relative capacity for dispersal by ocean currents.

Interesting observations are made on Rhizophora in the West Indies. In the appendix (p. 502) it is suggested that vivipary of the mangroves might be regarded as due to their endeavour to accommodate themselves to climatic conditions cooler than those that once prevailed in their present habitat.

The chapters on the general character and geological structure and the flora of the Turks Islands embody the most complete account yet published of the natural history of that interesting group, and in the detailed study of the altitudinal range of the indigenous plants of the Azores we have two scientific memoirs of great interest.

It is not possible to devote adequate attention to the chapter on Mr. Guppy's theory of differentiation based on the facts presented in this and previous publications. In regard to the general topic of the geographical distribution of plants, he fully accepts the views of Bentham, Hooker, and Asa Gray so clearly re-stated by Thiselton-Dyer in his contribution to "Darwin and Modern Science." Mr. Guppy admits that distribution becomes purely a problem of the northern hemisphere, and that this removes more difficulties in the study of distribution than any other hypothesis. It is a pleasure to add that the great value of Mr. Guppy's researches during the last thirty years has been authoritatively recognised by the recent award of the gold medal of the Linnean Society.

D. M.

OBSERVATION, PHILOSOPHY, AND TEACHING.

(1) *The Combination of Observations.* By D. Brunt. Pp. x+219. (Cambridge: At the University Press, 1917.) Price 8*s.* net.

(2) *Fundamental Conceptions of Modern Mathematics. Variables and Quantities. With a Discussion of the General Conception of Functional Relation.* By R. P. Richardson and E. H. Landis. Pp. xxii+216. (Chicago and London: The Open Court Publishing Company, 1916.) Price 1.25 dollars or 5*s.* net.

(3) *Revision Papers in Arithmetic.* By W. G. Borchardt. Pp. viii+156+answers xxxii. (London: Rivingtons, 1917.) Price 2*s.*

© 1917 Nature Publishing Group